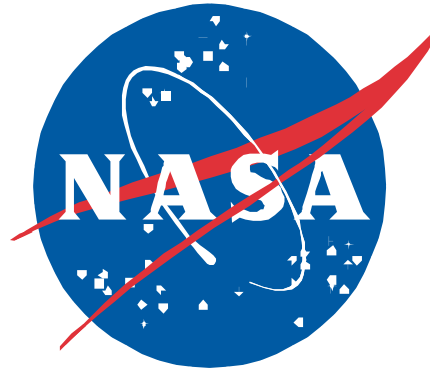




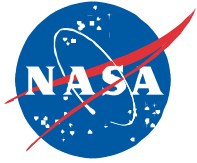
# SHUTTLE LAUNCH OPPORTUNITIES

SPACE ACCESS OFFICE



## Earth System Science Pathfinder Missions Space Shuttle Launch Opportunities

Stanley Nichols  
Office of Space Access  
NASA Headquarters  
Thursday, June 14, 2001



# SHUTTLE USE POLICY

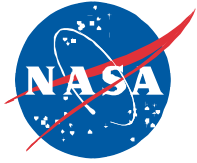
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¥42 U.S.C. 2465a states that the Space Shuttle shall be used for purposes that

- require the presence of man, ( **human interaction**)
- require the unique capabilities of the Space Shuttle or
- when other compelling circumstances exist.

¥Primary payloads must meet the above use policy.

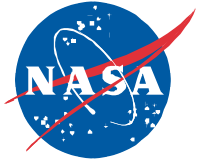
- Does not preclude the use of available cargo space, on a mission otherwise consistent with the policy, for secondary payloads that do not require **human interaction**



# Shuttle Launch Opportunities

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- ¥ All Shuttle funded flights through FY-05 are currently committed
  - Expected funded flight rate = 6/yr through FY-06
    - ¥ Two microgravity research missions (R1 & R2)
    - ¥ One X-38 research & demonstration mission
    - ¥ Two Hubble servicing missions (SM-3B & SM-4)
    - ¥ 25 Station assembly & servicing missions
- ¥ **Spacecraft project responsible for funding costs** of upper stages or development of any new **unique** carrier that may be required.
- ¥ **Spacecraft project responsible for** any mission unique costs (e.g. special cabling necessary for electrical interfaces, unique flight design for non-standard inclination launches) must be included separately.



# Shuttle Performance

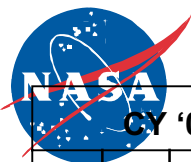
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## ¥ **Payload Size**

The capacity of the Space Shuttle is 38,000 pounds or greater depending on inclination and altitude. Secondary payloads generally do not exceed 8,000 pounds. Similarly, the shuttle payload bay volume (15' dia. x 60' long) is shared among the entire payload complement.

## ¥ **Orbits**

The Shuttle can carry payloads into orbits with an inclination ranging from 28.5 degrees to 57 degrees. Altitudes at which spacecraft and/or carriers can be deployed depend on a variety of factors but can vary from 110 nmi to over 300 nmi. Spacecraft and/or free flyers can carry orbit adjust systems to modify orbit parameters.



# SHUTTLE MANIFEST

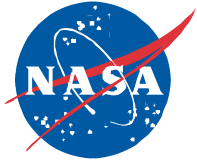


		CY '01				CY '02				CY '03				CY '04				CY '05				CY '06			
																		SPACE ACCESS OFFICE							
COLUMBIA						1/17 △ <sup>109</sup> HST SM 3B	5/23 ◇ <sup>107</sup> SPACEHAB Y/MEIDEX Y/SOLSE-2 Y/SOLCON U/CVX-2 M/LPT			2/20 ● <sup>116</sup> X38 FLIGHT DEMO *	9/03 ◇ <sup>999</sup> DSP UNFUNDED			5/04 △ <sup>123</sup> ◇ <sup>123</sup> RM2 or S/HST-SM-4			3/05 ◇ <sup>128</sup> △ <sup>128</sup> S/HST-SM-4 or RM2			7/06 ○ <sup>137</sup> OPP					
DISCOVERY	3/8 ● <sup>102</sup> ISS 5A.1	8/5 ○ <sup>105</sup> ISS 7A.1 S/SIMPLESAT								5/30 ○ <sup>118</sup> ISS 13A	11/03 ○ <sup>120</sup> ISS 15A			4/04 ○ <sup>122</sup> ISS 9A.1	8/04 ○ <sup>124</sup> ISS J/A	1/05 ○ <sup>126</sup> ISS UF3	5/05 ○ <sup>129</sup> ISS UF4	9/05 ○ <sup>131</sup> ISS UF5 MPLM	2/06 ○ <sup>134</sup> ISS						
ATLANTIS	2/7 ● <sup>98</sup> ISS 5A	7/12 ○ <sup>104</sup> ISS 7A			2/28 ○ <sup>110</sup> ISS 8A	7/11 ○ <sup>112</sup> ISS 9A	11/21 ○ <sup>114</sup> ISS 11A	4/10 ○ <sup>117</sup> ISS 12A.1	8/28 ○ <sup>119</sup> ISS 13A.1			2/04 ○ <sup>121</sup> ISS 10A							1/06 ○ <sup>133</sup> ISS UF6 MPLM	6/06 ○ <sup>136</sup> ISS					
ENDEAVOR	4/19 ● <sup>100</sup> ISS 6A	11/29 ○ <sup>108</sup> ISS-UF1 MLPM CREW ROT U/COLLIDE-2 U/PSRDC R/SPASE Y/CAPL-3 F/STARSHINE-2			4/18 ○ <sup>111</sup> ISS UF2	8/22 ○ <sup>113</sup> ISS ULF1 U/CONCAP		1/23 ○ <sup>115</sup> ISS 12A				9/04 ○ <sup>125</sup> ISS 1J		2/05 ○ <sup>127</sup> ISS IE	6/05 ○ <sup>130</sup> ISS 2J/A JEM-EF ELM-ES	11/05 ○ <sup>132</sup> ISS 14A PALLET SLP	4/06 ○ <sup>135</sup> ISS								

\* UNDER REVIEW

△ = Space Science  
 □ = Earth Science  
 ◇ = Biological and Physical Science

○ = INTERNATIONAL SPACE STATION (ISS)  
 ◇ = DOD



# Space Shuttle

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## ¥ **Contacts**

- NASA Headquarters: Stanley Nichols, Code MV, Washington D.C.  
202-358-4414, [snichols@hq.nasa.gov](mailto:snichols@hq.nasa.gov)
- Johnson Space Center: J. J. Conwell, Code MT2, Houston, Texas  
281-483-1178, [jervy.j.conwell1@jsc.nasa.gov](mailto:jervy.j.conwell1@jsc.nasa.gov)